

A genus explanation of Buchsbaum-Rim multiplicity
Hamid Hassanzadeh

Abstract:

We present the Buchsbaum-Rim multiplicity through a Koszul-Cech spectral sequence. We show that the Buchsbaum–Rim multiplicity is the arithmetic genus (Euler characteristic) of Koszul homology sheaves on a projective space over the base scheme. Among others, we generalize Serr'e (Grothendick) characterization of (Hilbert-Samuel) multiplicity in terms of Koszul homologies.

The talk is based on a joint work with: Viniçius Bouça, Thiago Fiel and Jose Naeliton.